

UTAH OIL AND GAS CONSERVATION COMMISSION

REMARKS: WELL LOG _____ ELECTRIC LOGS _____ FILE X WATER SANDS _____ LOCATION INSPECTED _____ SUB. REPORT/abd. _____

DATE FILED 12-17-82

LAND: FEE & PATENTED

STATE LEASE NO

PUBLIC LEASE NO. U-~~37801~~ 50750

INDIAN

DRILLING APPROVED: 12-17-82

SPUDDED IN:

COMPLETED: _____ PUT TO PRODUCING: _____

INITIAL PRODUCTION:

GRAVITY A.P.I.

GOR:

PRODUCING ZONES:

TOTAL DEPTH:

WELL ELEVATION: 5219' GR

DATE ABANDONED: ~~2-2-84 LA well never drilled~~ 1-22-84 LAID

FIELD: MONUMENT BUTTE 3/96

UNIT:

COUNTY: DUCHESNE

WELL NO. NGC FED #44-9-H

API NO. 43-013-30728

LOCATION 806'

FT. FROM ~~XX~~ (S) LINE.

712'

FT. FROM (E) ~~XX~~ LINE.

SE SE

1/4 -- 1/4 SEC. 9

TWP.

RGE.

SEC.

OPERATOR

TWP.

RGE.

SEC.

OPERATOR

9S

17E

9

NATURAL GAS CORP OF CAL

✓

NATURAL GAS CORPORATION OF CALIFORNIA

85 South 200 East
Vernal, Utah 84078
(801) 789-4573

December 8, 1982

Mr. E. W. Guynn
Minerals Management Service
1745 West 1700 South, Suite 2000
Salt Lake City, UT 84104

Division of Oil, Gas & Mining
4241 State Office Building
Salt Lake City, UT 84114

Re: NGC # 44-9-H Federal
SE $\frac{1}{4}$ SE $\frac{1}{4}$ Sec. 9, T.9S., R.17E.
Duchesne County, UT

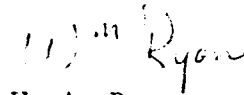
Gentlemen:

Natural Gas Corporation of California proposes to drill the subject well.
Enclosed are the following documents:

- 1) Application for Permit to Drill
- 2) Surveyor's Plat
- 3) Ten Point Plan
- 4) 13 Point Surface Use Plan

Your early consideration and approval of this application would be appreciated. Please contact this office if you have any questions concerning this application.

Sincerely,



W. A. Ryan
Petroleum Engineer

/kh

Encls.

cc: Operations
C. T. Clark
E. R. Henry

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. TYPE OF WORK

DRILL ☒DEEPEN ☐PLUG BACK ☐

b. TYPE OF WELL

OIL
WELL ☒GAS
WELL ☐

OTHER

SINGLE
ZONE ☐MULTIPLE
ZONE ☐

2. NAME OF OPERATOR

Natural Gas Corporation of California

3. ADDRESS OF OPERATOR

85 South 200 East, Vernal, UT 84078

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)*

At surface

712¹/₂ FEL, 806¹/₂ FSL, Section 9, T.9S., R.17E. (SE¹/₄SE¹/₄)

At proposed prod. zone

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*

15. DISTANCE FROM PROPOSED*

LOCATION TO NEAREST
PROPERTY OR LEASE LINE, FT.
(Also to nearest drlg. unit line, if any)

16. NO. OF ACRES IN LEASE

640

17. NO. OF ACRES ASSIGNED
TO THIS WELL

40

18. DISTANCE FROM PROPOSED LOCATION*
TO NEAREST WELL, DRILLING, COMPLETED,
OR APPLIED FOR, ON THIS LEASE, FT.

19. PROPOSED DEPTH

6100'

20. ROTARY OR CABLE TOOLS

Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.)

5219' GR

22. APPROX. DATE WORK WILL START*

April 1, 1983

23. PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
12-1/4"	9-5/8"	36#	300'	To surface
7-7/8"	5-1/2"	17#	TD	As required to protect the oil shale and producing zones.

See the attached sheets for additional details.

APPROVED BY THE STATE
OF UTAH DIVISION OF
OIL, GAS, AND MINING

DATE: 12-17-82

BY: *Thomas A. Ryan*

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen or plug back, give data on present productive zone and proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout preventer program, if any.

24.

SIGNED

Wm Ryan
W. A. Ryan

TITLE

Petroleum Engineer

DATE

November 22, 1982

(This space for Federal or State office use)

PERMIT NO.

APPROVAL DATE

APPROVED BY

TITLE

DATE

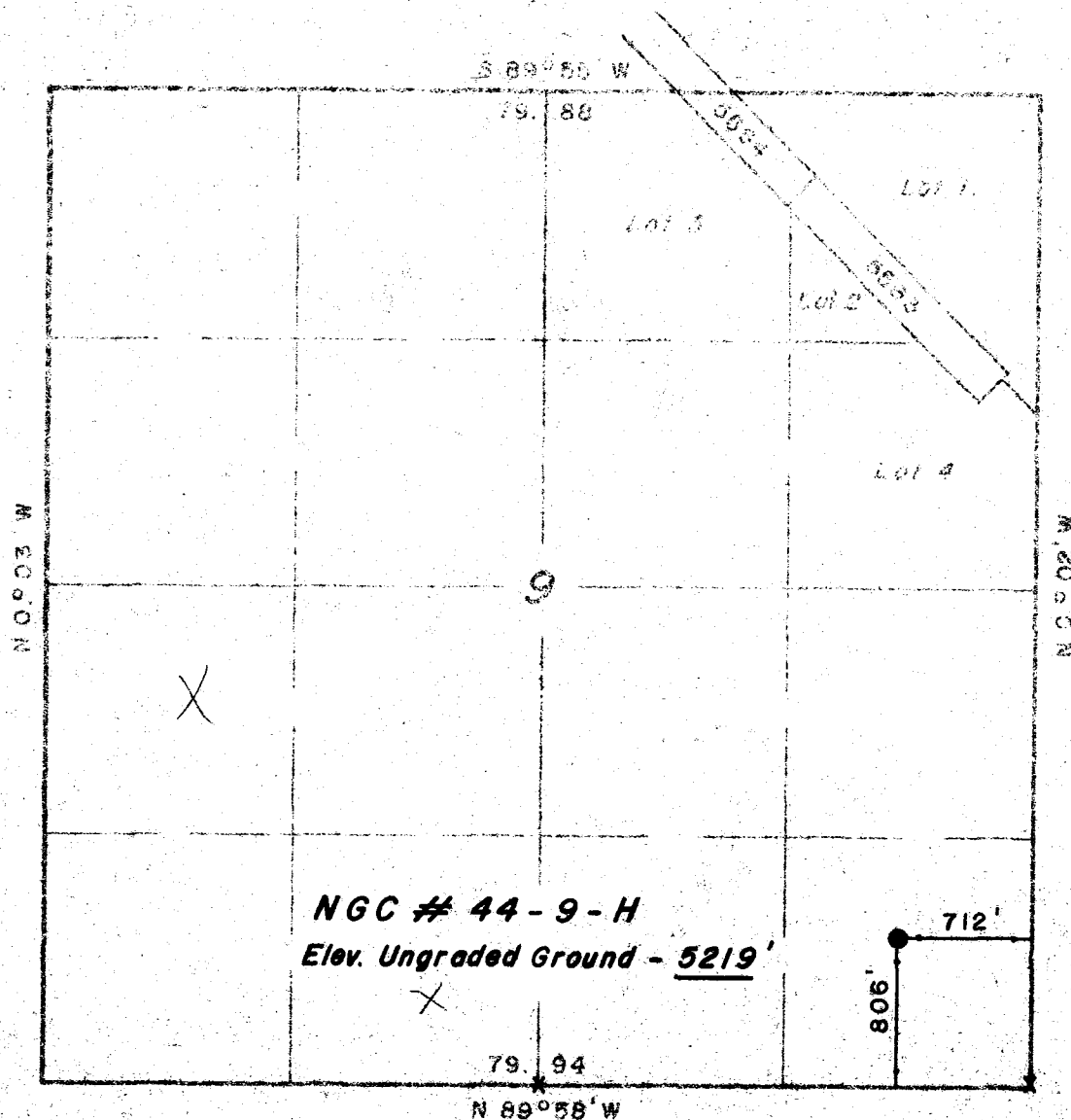
CONDITIONS OF APPROVAL, IF ANY:

cc: MMS; Div. of OG&M; Operations; CTCClark; ERHenry

T 9 S, R 17 E, S. L. B. & M.

PROJECT
NATURAL GAS CORP. OF CALIF.

Well location, NGC # 44-9-H,
located as shown in the SE 1/4 SE 1/4
Section 9, T 9 S, R 17 E, S. L. B. &
M. Duchesne County, Utah.



CERTIFICATE

THIS IS TO CERTIFY THAT THE ABOVE PLAT WAS PREPARED FROM
FIELD NOTES OF ACTUAL SURVEYS MADE BY ME OR UNDER MY
SUPERVISION AND THAT THE SAME ARE TRUE AND CORRECT TO THE
BEST OF MY KNOWLEDGE AND BELIEF.

[Signature]
REGISTERED LAND SURVEYOR
REGISTRATION NO 2454
STATE OF UTAH

UINTAH ENGINEERING & LAND SURVEYING
P. O. BOX - 9 - 85 SOUTH - 200 EAST
VERNAL, UTAH - 84078

SCALE	1" = 1000'	DATE	10/4/82
PARTY	RK JF LZ	REFERENCES	GLO. Plat
WEATHER	Cloudy / Cool	FILE	

X = Section Corners Located

Ten Point Plan
 NGC #44-9-H Federal
 SE $\frac{1}{4}$ SE $\frac{1}{4}$ Section 9, T.9S., R.17E.

1. Surface Formation: Uintah

2. Estimated Formation Tops and Datum:

<u>Formation</u>	<u>Depth</u>	<u>Datum</u>
Uintah	Surface	5233' KB
Green River	1373'	3860'
Oil Shale Facies	2060'	3173'
Delta Facies	3073'	2160'
Green Shale Marker	4098'	1135'
Black Shale Facies	5286'	- 53'
Green River Lime	5735'	- 502'
Wasatch	5911'	- 678'
T.D.	6100'	- 867'

3. Producing Formation Depth: Green River and Wasatch formations.

4. Proposed Casing Program:

<u>Hole Size</u>	<u>Casing Size</u>	<u>Weight/Ft.</u>	<u>Setting Depth</u>	<u>Casing New/Used</u>
12-1/4	9-5/8	36	300	New
7-7/8	5-1/2	17	T.D.	New

5. BOP and Pressure Containment Data: A 3000 WP BOP system as described in the BOP and Pressure Containment Data (attached) will be installed and maintained from the 9-5/8" surface casing. BOP system including the casing will be pressure tested to a minimum of 3000 psi for 30 mins. prior to drilling and will be mechanically checked daily during drilling operations.

6. Mud Program:

<u>Interval</u>	<u>Mud Weight lbs./gal.</u>	<u>Viscosity Sec./Qt.</u>	<u>Fluid Loss ML/30 mins.</u>	<u>Mud Type</u>
0-5600	Clear Water	-----	No Control	Water/Gel
5600-TD	8.8	40	10cc/less	L.S.N.D.

7. Auxiliary Equipment: Upper Kelly cock, full opening stabbing valve, 2 $\frac{1}{2}$ " choke manifold and pit level indicator.

8. Testing, Coring, Sampling and Logging:

- a. Testing: none.
- b. Coring: Possible side wall core.
- c. Sampling: none.
- d. Logging:

Type	Depth
DIL w/GR & SP	0-TD
FDC/CNL w/GR & CAL	
and "F" Log Overlay	
* Prox-Micro Log w/GR	
and CAL	

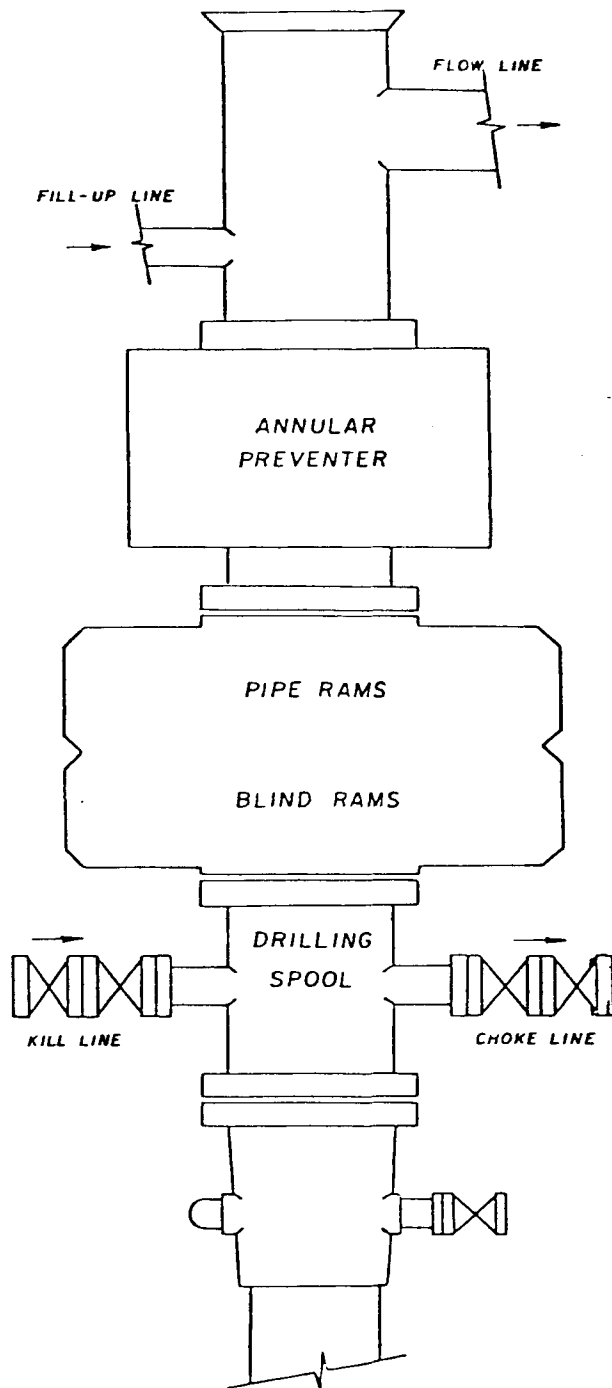
* Logged between interval selected by wellsite geologist.

Note: If production casing is set, two to four zones will be perforated. Each zone will be fracture treated with approximately 30,000 gallons of gelled water and 60,000# sand.

- 9. Abnormalities (including sour gas): No abnormal pressures, temperatures, or other hazards are anticipated.

- 10. Drilling Schedule: Drilling should start approximately April 1, 1983 and last 15 days.

NATURAL GAS CORPORATION
OF
CALIFORNIA
BOP AND PRESSURE CONTAINMENT DATA
NGC 44-9-H
Section 9, T.9S., R.17E.



1. BOP equip shall consist of a double gate, hydraulically operated preventer with pipe & blind rams or two single ram type preventers, one equipped w/pipe rams, the other w/blind rams.
2. BOP's are to be well braced w/ hand controls extended clear of substructure.
3. Accumulator to provide closing pressure in excess of that required w/sufficient volume to operate all components.
4. Auxiliary equipment: Lower kelly cock, full opening stabbing valve, 2½" choke manifold, pit level indicator &/or flow sensors w/alarms.
5. All BOP equipment, auxiliary equipment stand pipe & valves & rotary hose to be tested to the rate pressure of the BOP's at time of installation & every 30 days thereafter. BOP's to be mechanically checked daily.
6. Modification of hook-up or testing procedure must be approved in writing on tour reports by wellsite representative.

13 Point Surface Use Plan

1. EXISTING ROADS

See attached topographic map A.

To reach NGC Well #44-9-H, proceed west from Myton, Utah along U.S. Highway 40 for 1.5 miles to its junction with Highway 53. Proceed south on Highway 53 for 2 miles to its junction with County Road #216. Follow County Road #216 for 10 miles. Turn southwest on the Sand Wash Road and proceed 1.4 miles. Turn east on oil field service road. Proceed .5 miles. At this point the new road will start.

2. PLANNED ACCESS ROAD

See attached topographic map B.

There will be .6 miles of new road construction. No off lease right-of-way will be required. The access road will be constructed to the following standards.

- 1) Width - The running surface will be 18 feet and the total disturbance width including the ditches will not exceed 30 feet.
- 2) Maximum grade - 3%.
- 3) Turnouts - None.
- 4) Drainage designs - Ditches will be constructed on each side of the road, V-shaped, 1 foot deep at 3:1 slopes.
- 5) Location and size of culverts, major cuts and fills - None.
- 6) Surfacing materials - None.
- 7) Gates, cattleguards, or fence cuts - None.
- 8) The proposed road has been flagged.

3. LOCATION OF EXISTING WELLS

The following wells are located within a one mile radius of the location site.

- 1) Water wells - None.
- 2) Abandoned wells - None.
- 3) Temporarily abandoned wells - None.
- 4) Disposal wells - None.
- 5) Drilling wells - None.
- 6) Producing wells - #13-9-H, Sec. 9, T.9S., R.17E., #11-16-H, Sec. 16, T.9S., R.17E.
- 7) Shut-in Wells - None.
- 8) Injection wells - None.
- 9) Monitoring or observation wells for other resources - None.

4. LOCATION OF EXISTING AND/OR PROPOSED FACILITIES

- A. (1) Tank batteries - A tank battery will be built on the location.
(2) Production facilities - None.
(3) Oil gathering lines - No lines will be constructed as the oil will be hauled by trucks.
(4) Gas gathering lines - None.
- B. (1) In the event production is established, all petroleum production facilities are to be contained within the proposed location site. In the event that production of oil from this well is established, a berm will be constructed around the tank battery large enough to contain the contents of tanks.
(2) Construction methods and materials - Production facilities will be placed on the proposed pad. Construction materials will come from the unused portion of the pad.
(3) Livestock and wildlife protection - The evaporation pond will be fenced on all four sides and overhead wire with flagging installed, if there is oil in the pit.
- C. The rehabilitation of disturbed areas no longer required for the production of this well will be completed by backfilling, recontouring, topsoiling and seeding.

5. LOCATION AND TYPE OF WATER SUPPLY

See attached topographic map A. Water will be obtained from the Upper Pleasant Valley Canal in Section 33, T.4S., R.2W., or at the Clark Roberts Ranch in Section 21, T.8S., R.17E. Agreements have been made with both in the past. The location will depend on the availability of water at the time the well is drilled.

6. SOURCE OF CONSTRUCTION METHODS

All construction materials for this location site and access road will be borrow materials, accumulated during construction of the location site. No additional road gravels or pit lining material from other sources are anticipated at this time, but if they are required, the appropriate actions will be taken to acquire them from private sources.

7. METHODS FOR HANDLING WASTE DISPOSAL

- 1) Cuttings, drilling fluids and produced fluids - A reserve pit will be constructed. The reserve pit will be approximately 10' deep and at least one-half of this depth shall be below the surface of the existing ground.

One half of the reserve pit will be used as a fresh water storage area during the drilling of this well and the other one-half will be used to store nonflammable materials such as cutting, salts, drilling fluids, chemicals, produced fluids, etc.

Prior to the onset of drilling, a "stock tight" fence shall be installed on three sides of the reserve pit. This fence will be either (1) woven wire at least 28 inches high and within four inches of ground surface with two strands of barbed wire above the woven wire with 10-inch spacing, or (2) at least five strands of barbed wire spaced, starting from the ground, at approximately 6-, 8-, 10-, 12-, and 12-inch intervals. At the completion of drilling operations, the fourth side of the reserve pit will be fenced and allowed to dry completely before the pit is backfilled. If there is oil on the pits, overhead wire and flagging will be installed on the pits.

If deemed necessary by the agencies concerned to prevent contamination to surrounding areas, the reserve pit will be lined with a gel.

- 2) Sewage - A portable chemical toilet will be supplied for human waste.
- 3) Garbage - Trash cages will be on all locations and all trash will be removed to an authorized landfill.
- 4) Site Clean-up - Immediately after the rig is moved out, the area around the well site will be cleaned and all refuse placed in the burn pit.

8. ANCILLARY FACILITIES

There are no ancillary facilities planned for at the present time and none foreseen in the near future.

9. WELL SITE LAYOUT

See typical rig layout.

10. PLANS FOR RESTORATION OF THE SURFACE

Prior to construction of the location, the top six inches of soil material will be stripped and stockpiled. This will amount to approximately 1800 cubic yards of material that will be stockpiled.

If the well is producing, the platform and pit areas no longer required for the production of the well will be backfilled, recontoured, topsoiled and seeded.

If the well is abandoned, the entire disturbed area (including roads) will be restored by: (1) backfilling; (2) recontouring; (3) topsoiling; (4) seeding. Specifically: the platform highwall(s) and road fill(s) will be eliminated by moving all excavated material back in place. Restoration of the location and access road will begin within 90 days after completion of the well. The BLM representative will be notified prior to starting the rehabilitation operations.

The following seed mixture and methods for seeding will be used: The seed mixture will be determined by the Bureau of Land Management at the time of abandonment.

Seed will be planted after September 1 and prior to ground frost; or seed will be planted after the frost has left and before May 15. All seed will be drilled on the contour at a depth of $\frac{1}{4}$ to $\frac{1}{2}$ inch. Slopes too steep or rocky for machinery will be broadcast and the seed hand raked into the soil. When broadcasting the seed, the rate per acre will be doubled.

The Lessee further covenants and agrees that all of said clean-up and restoration activities shall be done and performed in a diligent and most workmanlike manner and in strict conformity with the above mentioned Items #7 and #10.

11. OTHER INFORMATION

- 1) The Vernal District BLM will be contacted by the Operator or dirt contractor forty-eight hours prior to beginning any work on public land.
- 2) The dirt contractor will be furnished a copy of the approved APD and Surface Use Plan prior to beginning any work on public land.
- 3) All permanent (on-site for six (6) months duration or longer) structures constructed or installed, including the pumpjack, shall be painted a flat, non-reflective, earthtone color to match Tnemec 23-08351 Mesa Brown Enduratone or an approved equal. All facilities shall be painted within six months of when the production facilities are put in place. Facilities that are required to comply with O.S.H.A. (Occupational Safety and Health Act) are excluded.
- 4) Construction and maintenance of roads, rehabilitation of disturbed areas, and construction of pipeline routes shall be in accordance with the surface use standards as set forth in the booklet, "Surface Operating Standards for Oil and Gas Exploration and Development".

12. LESSEE'S OR OPERATOR'S REPRESENTATIVE

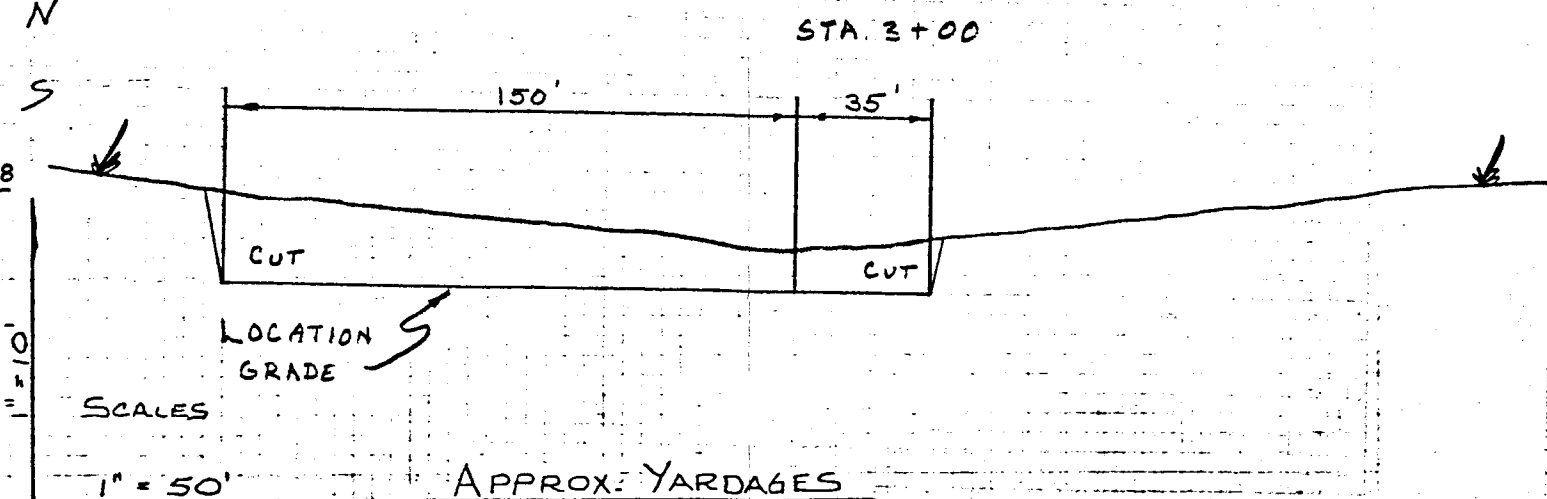
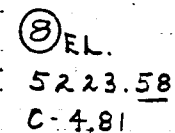
Natural Gas Corporation of California
85 South 200 East
Vernal, UT 84078
Attn: Bill Ryan or Rick Canterbury
Telephone: (801) 789-4573

13. CERTIFICATION

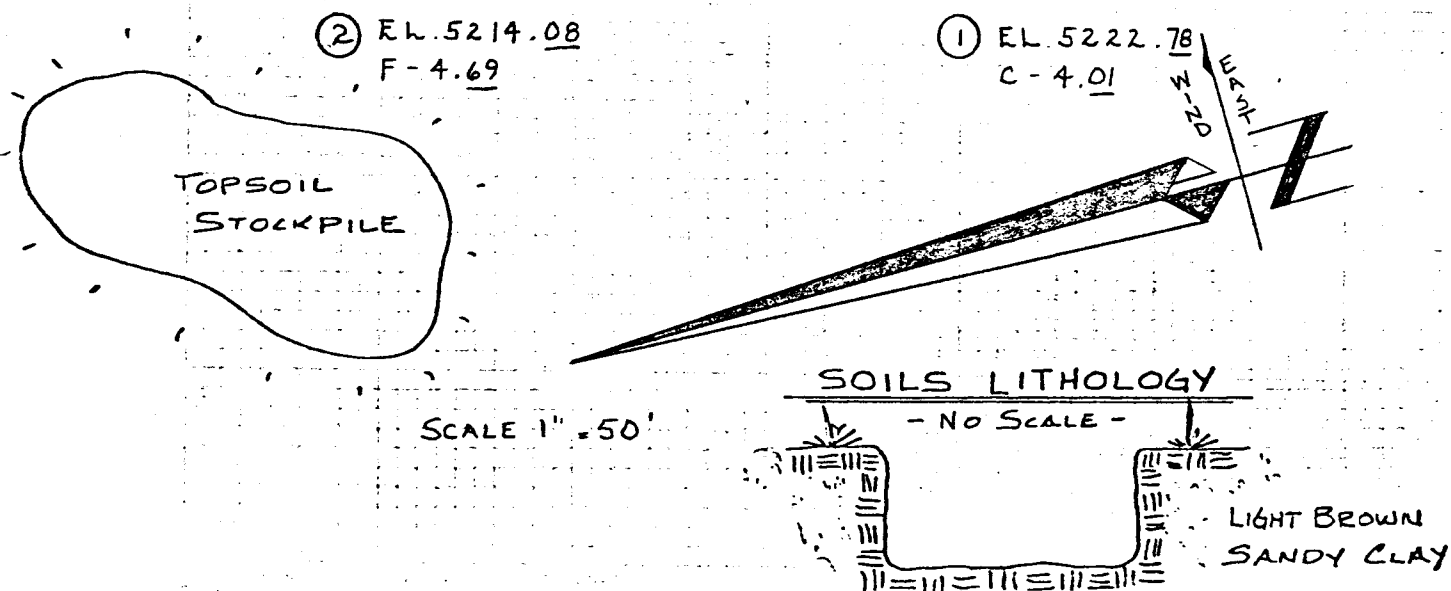
I hereby certify that I, or persons under my direct supervision, have inspected the proposed drillsite and access route; that I am familiar with the conditions which presently exist; that the statements made in this plan are, to the best of my knowledge and belief, true and correct; and that the work associated with the operations proposed herein will be performed by Natural Gas Corporation of California and its contractors in conformity with this plan and terms and conditions with this plan and the terms and conditions under which it is approved.

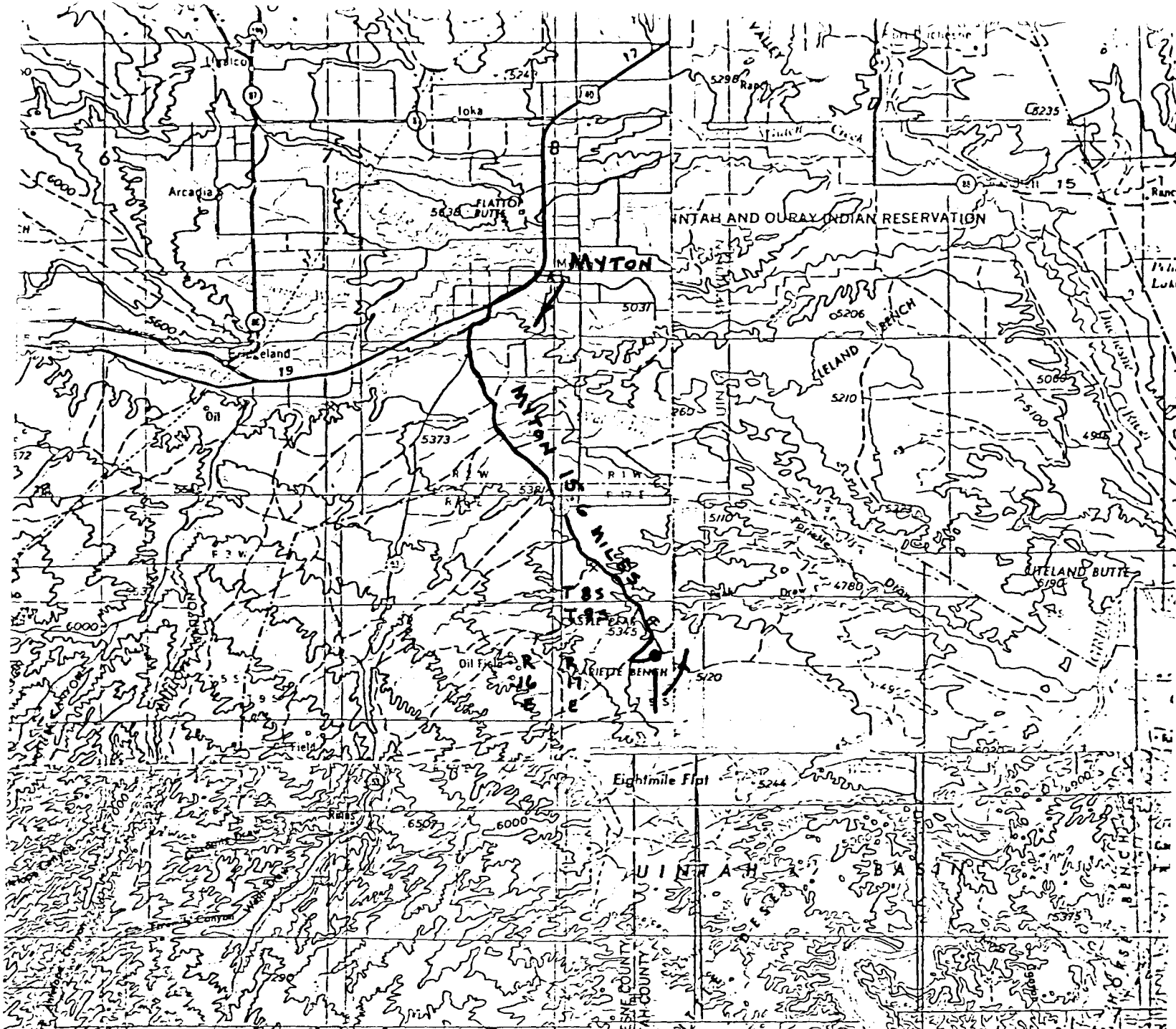
December 8, 1982
Date

William A Ryan
W. A. Ryan, Petroleum Engineer



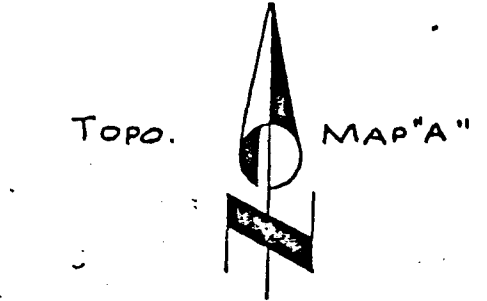
CUBIC YARDS CNT - 9,168
CUBIC YARDS FILL - 2,152





NATURAL GAS CORP. OF CALIF.

NGC # 44-9-H
PROPOSED LOCATION



SCALE - 1" = 4 MI.



MYTON 13.1 MILES

1.4 MILES

0.5 MI.

PROPOSED LOCATION
NGC #44-9-H

PROPOSED ACCESS ROAD

0.6 MILE

NATURAL GAS CORP.
OF CALIF.

NGC # 44-9-H

PROPOSED LOCATION

Topo.

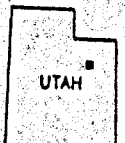
MAP "B"



SCALE - 1" = 2000'

ROAD CLASSIFICATION

Light-duty ——— Unimproved dirt - - - - -



QUADRANGLE LOCATION

OPERATOR NATURAL GAS CORP OF CAL

DATE 12-17-82

WELL NAME NGC FED 44-9-H

SEC SESE 9 T 9S R 17E COUNTY DUCHESE

43-013-30728

API NUMBER

FED

TYPE OF LEASE

POSTING CHECK OFF:

☐

INDEX

☒

HL

☒☐

NID

☒

PI

☐☐

MAP

☒☐

PROCESSING COMMENTS:

NO WELLS WITHIN 1000'

RJP ✓

APPROVAL LETTER:

SPACING:

☐

A-3

UNIT

☐

c-3-a

CAUSE NO. & DATE

☒

c-3-b

☐

c-3-c

SPECIAL LANGUAGE:

☒ RECONCILE WELL NAME AND LOCATION ON APD AGAINST SAME DATA ON PLAT MAP.

☒ AUTHENTICATE LEASE AND OPERATOR INFORMATION

☒ VERIFY ADEQUATE AND PROPER BONDING *FEA*

☒ AUTHENTICATE IF SITE IS IN A NAMED FIELD, ETC.

☒ APPLY SPACING CONSIDERATION

☐ ORDER NO

☐ UNIT NO

☒ c-3-b

☐ c-3-c

☒ OUTSTANDING OR OVERDUE REPORTS FOR OTHER WELLS OF THE OPERATOR.

☒ IF POTASH DESIGNATED AREA, SPECIAL LANGUAGE ON APPROVAL LETTER

December 17, 1982

Natural Gas Corporation of California
85 South 200 East
Vernal, Utah 84078

RE: Well No. NGC Fed. 44-9-H
SESE 9, T.9S, R.17E
Duchesne County, Utah

Gentlemen:

Insofar as this office is concerned, approval to drill the above referred to oil well is hereby granted in accordance with Rule C-3(b), General Rules and Regulations and Rules of Practice and Procedure.

Should you determine that it will be necessary to plug and abandon this well, you are hereby requested to immediately notify the following:

RONALD J. FIRTH - Engineer
Office: 533-5771
Home: 571-6068

OR

CLEON B. FREIGHT - Director
Office: 533-5771
Home: 466-4455

Enclosed please find Form OGC-8-X, which is to be completed whether or not water sands (aquifers) are encountered during drilling. Your cooperation in completing this form will be appreciated.

Further, it is requested that this Division be notified within 24 hours after drilling operations commence, and that the drilling contractor and rig number be identified.

The API number assigned to this well is 43-013-30728.

Sincerely,

Norman C. Stout
Administrative Assistant

NCS/as
cc: MMS
Enclosure

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. TYPE OF WORK

DRILL ☒DEEPEN ☐PLUG BACK ☐

b. TYPE OF WELL

OIL
WELL ☒GAS
WELL ☐OTHER ☐SINGLE
ZONE ☐MULTIPLE
ZONE ☐

2. NAME OF OPERATOR

Natural Gas Corporation of California

3. ADDRESS OF OPERATOR

85 South 200 East, Vernal, UT 84078

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At proposed prod. zone

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LOCATION TO NEAREST
PROPERTY OR LEASE LINE, FT.
(Also to nearest drig. unit line, if any)

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TO NEAREST WELL, DRILLING, COMPLETED,
OR APPLIED FOR, ON THIS LEASE, FT.

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Rotary

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24. SIGNED Wm Ryan TITLE Petroleum Engineer DATE November 22, 1982
W. A. Ryan
(This space for Federal or State office use)

PERMIT NO.

APPROVAL DATE

APPROVED BY

E. W. Guynn
District Oil & Gas Supervisor

CONDITIONS OF APPROVAL, IF ANY:

cc: MMS; Div. of OG&M; Operations; CTCIark; ERHenry

NOTICE OF APPROVAL

CONDITIONS OF APPROVAL ATTACHED
TO OPERATOR'S COPYFLARING OR VENTING OF
GAS IS SUBJECT TO NTL 4-A
DATED 1/1/80

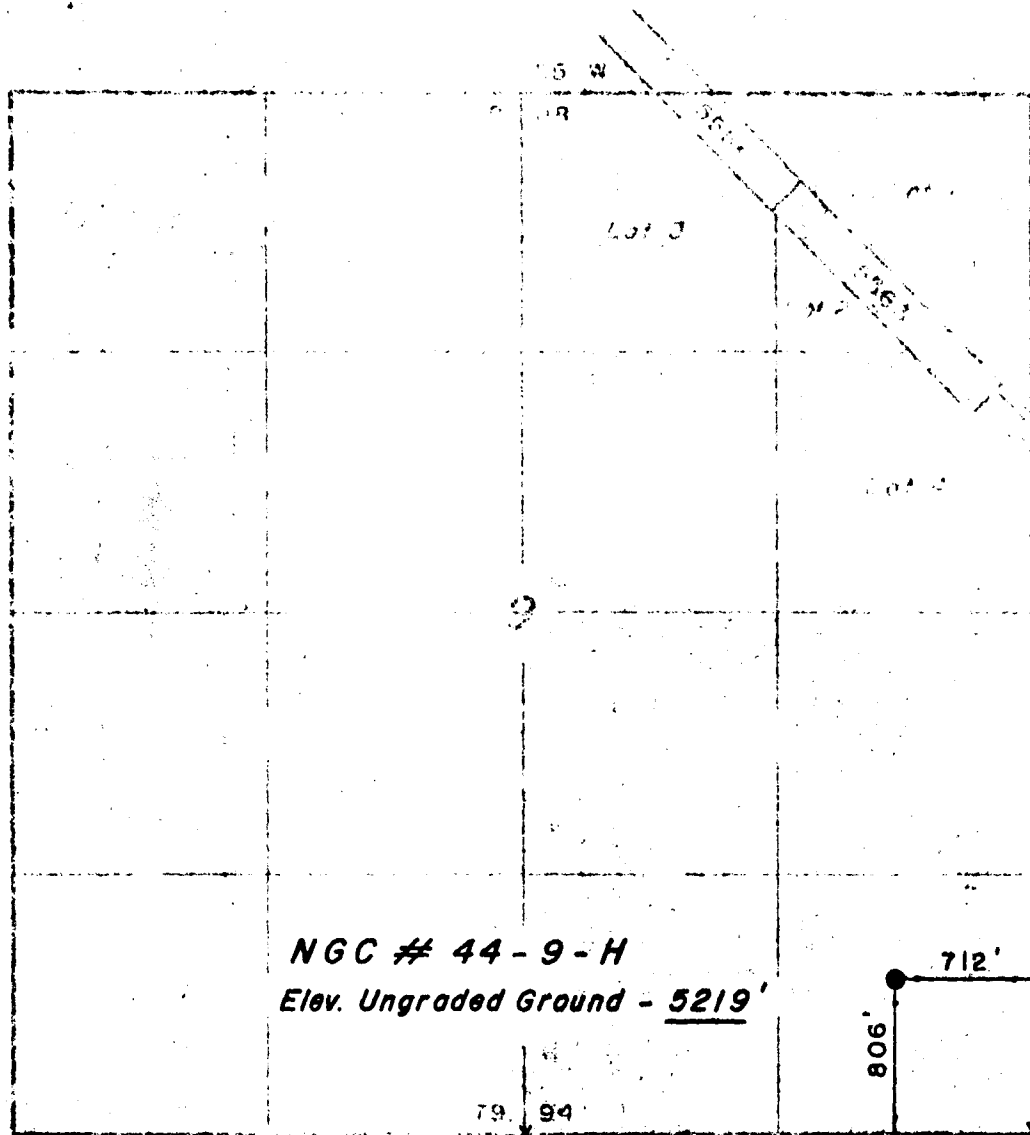
NATURAL GAS COMPANY

Well location, 22-24-44

located as shown in the SE 1/4 of

Section 9, T. 9 S., R. 17 E., S. 10.

M. Duchesne County, Utah



NGC # 44-9-H
Elev. Ungraded Ground - 5219'

806' 712'



CERTIFICATE

THIS IS TO CERTIFY THAT THE ABOVE PLAT WAS PREPARED FROM
FIELD NOTES OF ACTUAL SURVEYS MADE BY ME OR UNDER MY
SUPERVISION AND THAT THE SAME ARE TRUE AND CORRECT TO THE
BEST OF MY KNOWLEDGE AND BELIEF.

REGISTERED LAND SURVEYOR
REGISTRATION NO 2454
STATE OF UTAH

UTAH ENGINEERING & LAND SURVEYING
 P.O. BOX 9 - 35 SOUTH - 200 EAST
 VERNAL, UTAH - 84316

SCALE	1" = 1000'	DATE	10/4/89
PARTY	RK JF LZ	REFERENCE	GLO FILE
WEATHER	Cloudy / Cool	FILE	NATURAL

POOR COPY

X - Section Location Located

Natural Gas Corporation of California
Well No. 44-9-H
Section 9, T.9S., R.17E.
Duchesne County, Utah
Lease U-50750

Supplemental Stipulations

- 1) Adequate and sufficient electric/radioactive logs will be run to locate and identify the prime oil shale horizons in the Mahogany zone of the Green River formation. Casing and cementing programs will be adjusted to eliminate any potential influence of the well bore or productive hydrocarbon zones on the oil shale resource. Surface casing program may require adjustment for protection of fresh water aquifers. (See attached tentative casing and cementing program for the Uinta Basin.)



United States Department of the Interior

GEOLOGICAL SURVEY
Conservation Division
2000 Administration Building
1745 West 1700 South
Salt Lake City, Utah 84104

February 2, 1981

General Outline for the Protection and Isolation of Ground Water and Oil Shale in the Uinta Basin.

The oil shale occurs with varying thicknesses in most parts of the Uinta Basin and at varying depths. Ground water also occurs at varied depths above and below the Oil Shale. These ground waters have varying degrees of salinity. Nonetheless, drilling for hydrocarbon in the Uinta Basin should provide for the protection of the oil shale and the ground water if either is present.

The protection of the oil shale and the ground water can effectively be carried on through the design of an adequate casing and cementing program for each well drilled in the area.

In the Uinta Basin, water occurs mainly in the Uinta and the Green River formations. As drilling for hydrocarbon gets deeper into the crust of the earth, more ground water might be encountered and will be protected as it is encountered.

This notice's purpose is to attempt to lay the groundwork for a casing program and cementing program that will protect the oil shale and the ground water if present.

These programs are to be considered as guidelines. The specificity of casing depth, amount of cement and the depth of staging collars will be considered on an individual basis after a careful study of the logs of each individual well. Cementing from the bottom up is an economical solution if carefully conducted.

The casing and cementing program presented here as an example, will assume that fresh water was encountered in the upper parts of the Green River, that the oil shale occurs in the middle of the Green River (1000 foot section) and that some ground water is encountered in the lower parts of the Green River.

In this case, three areas will have to be cemented to assure the integrity of the ground water and oil shale. These areas are above the upper fresh water, across the oil shale and below the lower water aquifer. Deep aquifers that do not contain useful water are cemented to prevent water zone influence on production.

The following casing and cementing program will be appropriate for this example:

- A. Surface casing is set at approximately 300 feet and cemented to the surface.

- B. The next casing string will be set at approximately 300 feet below the lowest aquifer. Cementing will be done in three stages, using two stage collars and cement baskets or equivalent as described below and on attached sketches:
1. Cement first stage through the casing shoe to fill annulus back to base of lower aquifer.
 2. Place 1st stage collar (with cement basket immediately below) at a selected point at the base of the oil shale. Cement will have to reach top of oil shale.
 3. Place 2nd stage collar (with cement basket immediately below) 50 feet above the top of the Bird's Nest aquifer and cement to at least 300 feet above the stage collar.
- C. The above is an example. Reasonable equivalents that accomplish these same protective measures, (such as cementing the water zones instead of isolating them), depending on the individual cases will be considered for approval.
- D. When the above mentioned well is to be abandoned, inner-casing plugs will have to be placed at the same depth as the above mentioned annulus cement jobs.

The use of cement bond logs will verify the authenticity of the cement job performed.

- E. The Operator of such well should notify U.S.G.S. 48 hours prior to commencement of casing and cementing activity, so a technician could be dispatched to witness the operations to verify compliance with casing and cementing program.

Attached Sketches:

1. Schematic of the required casing and cementing program.
2. Cross section of the Uinta Basin.
3. Schematic of the general ground water protection program.

E. W. Guynn
District Oil and Gas Supervisor

AMR/kr

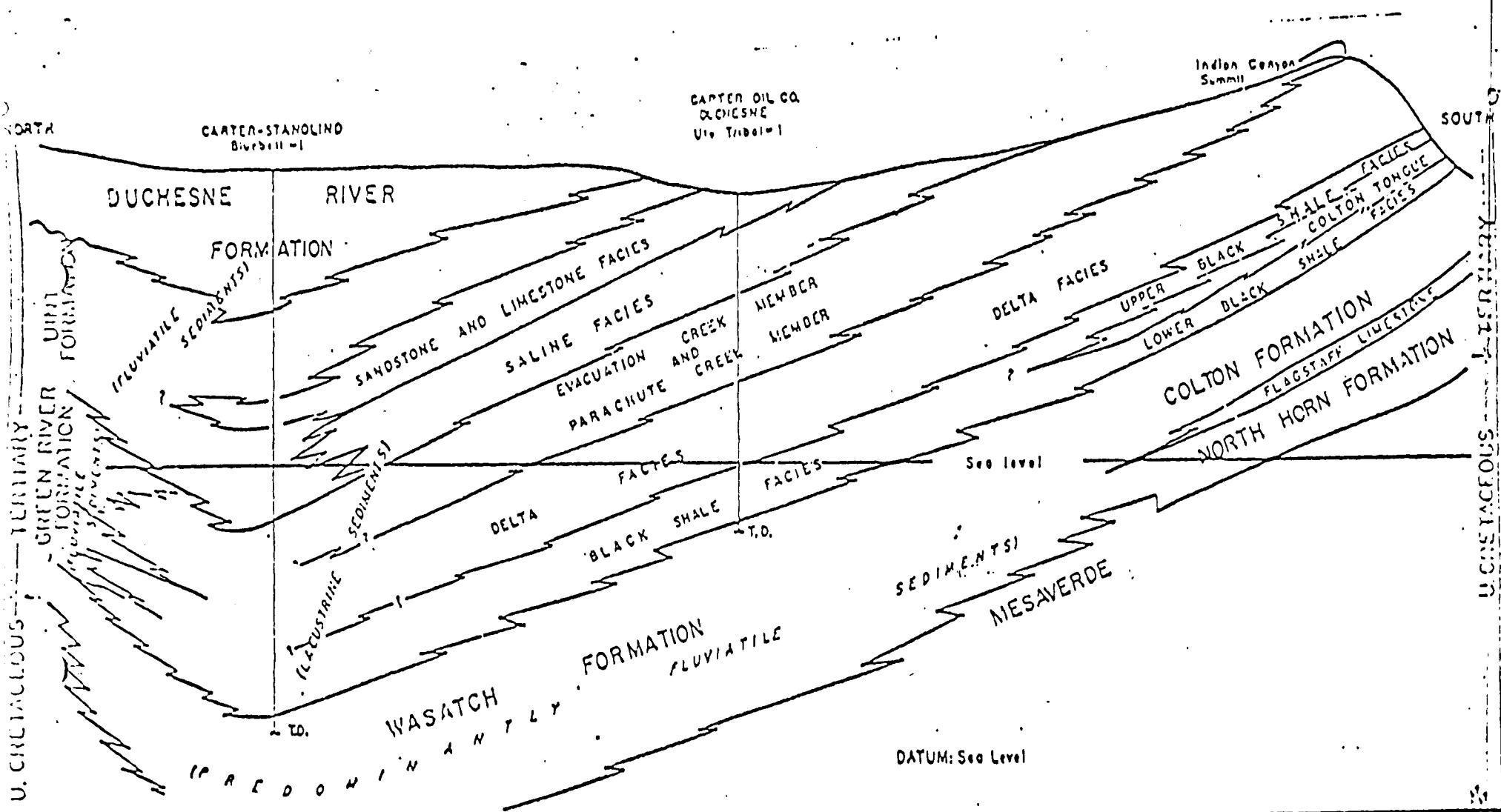
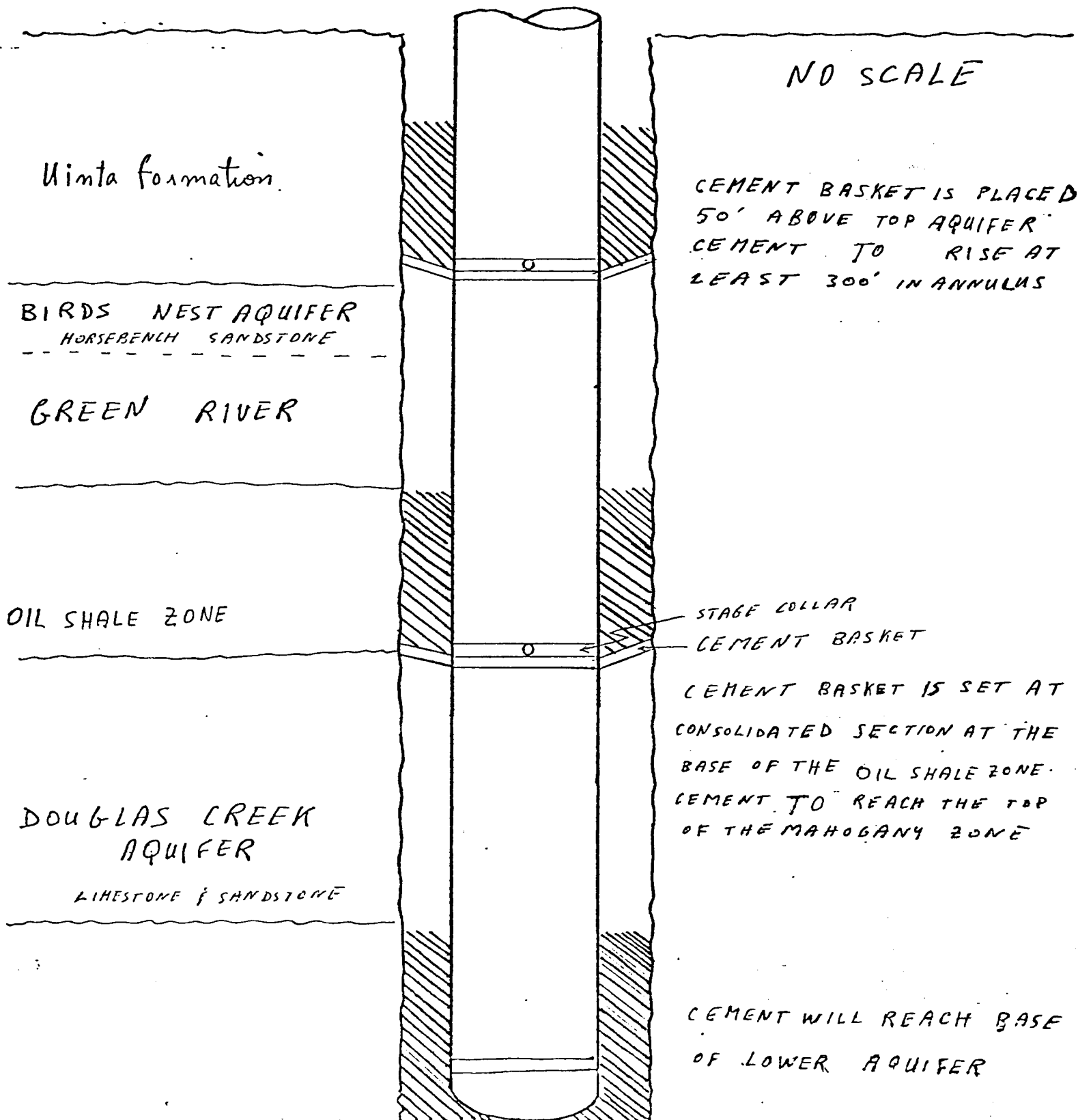


Figure 5.- View east of cross section of Uinta Basin showing stratigraphy and intertonguing of Tertiary rocks. Ute Tribal-1 (in section) is located about 8 miles southeast of the application area.

PARTIAL CASING & CEMENTING PROGRAM FOR WELLS IN NATURAL BUTTES FIELD. HINTAH COUNTY, UTAH





STATE OF UTAH
NATURAL RESOURCES
Oil, Gas & Mining

Scott M. Matheson, Governor
Temple A. Reynolds, Executive Director
Dr. G. A. (Jim) Shirazi, Division Director

4241 State Office Building • Salt Lake City, UT 84114 • 801-533-5771

December 22, 1983

Natural Gas Corporation of California
85 South 200 East
Vernal Utah 84078

RE: Well No. NGC #44-9-H
806' FSL, 712' FEL SE SE
Sec. 9 T. 9S, R. 17E.
Duchesne County, Utah

Gentlemen:

Due to excessive time delay in commencing drilling operations, approval to drill the subject well is hereby rescinded effective one calendar month from the date of this notice.

A new Application for Permit to Drill must be filed with this office for approval, prior to future drilling of the subject location.

Respectfully,

Norman C. Stout
Administrative Assistant

NCS/cj